

ABSTRACT

The invention relates to a method for preparing a lithium and vanadium oxide and the thus obtained products. The method comprises preparing a precursor gel by reacting hydrogen peroxide with  $V_2O_5-\alpha$  in an aqueous medium in the presence of a lithium precursor and exposing the gel to a heat treatment in an oxidant atmosphere at a temperature ranging from 260°C to 580°C. A compound of a formula  $Li_{1+\alpha}V_3O_8$ , ( $0.1 < \alpha < 0.25$ ) comprises needle-shaped grains having a bimodal distribution, wherein the length (L) of the first distribution needles ranges from 10 to 50  $\mu m$  and the length (L) of the second distribution needles ranges from 10 to 10  $\mu m$ .